

PAT-NO: JP407019874A  
DOCUMENT-IDENTIFIER: JP 07019874 A  
TITLE: SURVEY EQUIPMENT AND DATA RECORDER  
PUBN-DATE: January 20, 1995

INVENTOR-INFORMATION:  
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ASSIGNEE-INFORMATION:  
NAME COUNTRY  
TOPCON CORP N/A

APPL-NO: JP05187052  
APPL-DATE: June 30, 1993

INT-CL (IPC): G01C015/00, G08C019/36

ABSTRACT:

PURPOSE: To improve the measuring work efficiency by providing a connection means for sending the image output signal of imaging device and survey data to a data recorder.

CONSTITUTION: The image of a target is converted with a solid state image sensing device 810 to electric signals, amplified with a preamplifier 830 and indicated on a display 2200. The worker seeing the image, operates a keyboard 2300 and focuses the image. The worker also operates a key board 2300 after the focusing and records the image taken with the element 810 and such data as worknames, meteorological conditions, point numbers and the like in a memory 2100. Then, the operates light wave distance meter 700 and measures the

distance to the target. The oblique distance data of the distance meter 700 are sent from a microcomputer 900 to a CPU 2400 and stored in the memory 2100. The surveyed angle data obtained with an encoder 920 for elevation and an encoder 930 for horizontal survey of the survey equipment 1000 are also sent similarly to a data collector 2000, indicated in the display 2200 and stored in the memory 2100.

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PAT-NO: JP406186036A  
DOCUMENT-IDENTIFIER: JP 06186036 A  
TITLE: THREE-DIMENSIONAL LOCATION MEASURING SYSTEM  
PUBN-DATE: July 8, 1994

INVENTOR-INFORMATION:

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APPL-NO: JP04353833  
APPL-DATE: December 16, 1992

INT-CL (IPC): G01C015/00, G01B011/00

ABSTRACT:

PURPOSE: To enable measuring position with high accuracy and at high speed by referring to the position of a beam spot applied to the beam application position on each of target plates whose positions are known, the target plates being provided by more than a specified number.

CONSTITUTION: The imaging camera 2, the light wave range finder 3 and the laser emitter 4 of a scanning measuring device S have a common optical axis 16 set by a semitransparent mirror 11. The optical axis 16 is scanned by horizontal and vertical rotating mirrors 12, 13 and deviates in directions 17-19 as it goes toward target plates A1-A3. The angles of rotation of the

mirrors 12, 13 at that time are measured by horizontal and vertical angle encoders 14, 15 for each plate A1-A3. The position of the device S is determined by performing operations on data about the known positions of the plates A1-A3 and data about the angles measured by the encoders 14, 15. Since a laser spot applied 4 to each plate A1-A3 is photographed 2, an accurate reference position can always be secured, allowing target location at high accuracy. The distance to a target or each plate A1-A3 can be measured using the range finder 3.

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PAT-NO: JP408043098A  
DOCUMENT-IDENTIFIER: JP 08043098 A  
TITLE: MULTIFUNCTIONAL SURVEY MEASUREMENT SYSTEM  
PUBN-DATE: February 16, 1996

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APPL-NO: JP06181473

APPL-DATE: August 2, 1994

INT-CL (IPC): G01C015/00, G01B011/00 , G01B011/26 , G01C007/06 ,  
G01C015/06

ABSTRACT:

PURPOSE: To reduce the number of parts and at the same time,  
drastically  
reduce the total cost by making common a measuring instrument when  
performing a  
general survey and a special survey for obtaining an inner-space  
displacement  
and the amount of crest sink.

CONSTITUTION: The system is provided with a total station 2 for  
obtaining  
range-finding data and angle-measurement data by performing range-  
finding and

angle measurement and a data collector 3 for executing data processing by receiving the range-finding data and angle-measurement data obtained by the total station 2. The total station 2 is provided with a general mode for performing a measurement for a general survey and a special mode for measurement corresponding to a special survey and the data collector 3 is provided with a keyboard part 11 for instructing the total station 2 for a general mode and a special mode and an electronic equipment 12 for obtaining a survey result by performing data processing corresponding to a mode instructed by the keyboard part 11 by receiving the range-finding data and the angle-measurement data from the total station 2.

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